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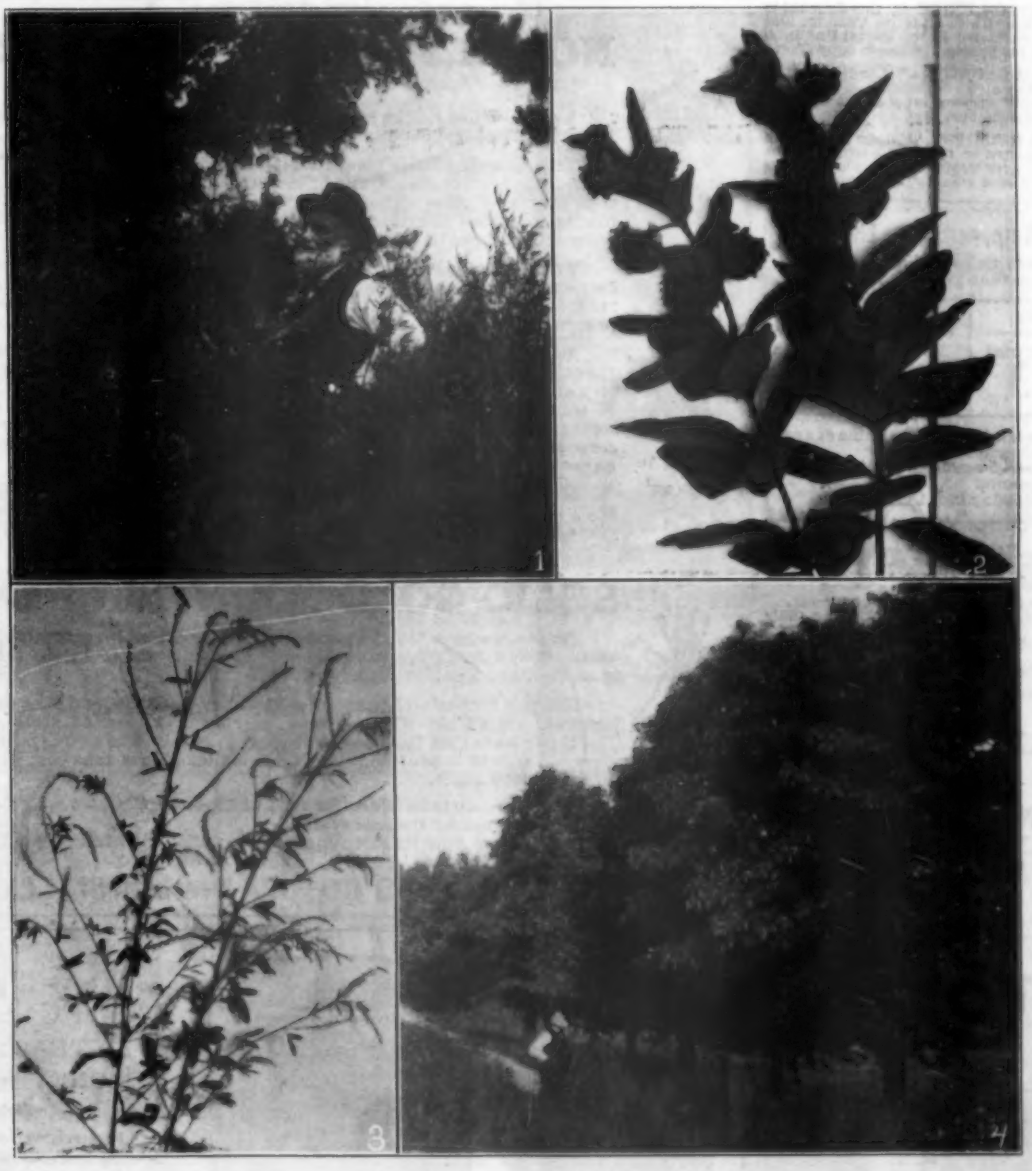
# AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., JULY 26, 1906 No. 30



## Fourth of July Pictures Taken at Dr. Miller's

(See page 634)

1. Dr. Miller in the Sweet Clover Bloom.
2. Milkweed in Bloom.
3. Two Sweet Clover Stalks in Bloom.
4. Row of Basswood Trees in Bloom.

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.
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| Per 500 | 2.50 | 2.25 | Per 4000 | 18.50 | 16.50 |
| Per 1000 | 5.00 | 4.50 | Per 5000 | 22.50 | 20.00 |

Plain, no-bee-way sections, 4¼x4¼x1⅛, 1⅝, or 1¾, 3⅝x5x1⅛, 4x5x1⅜ or 1½, in lots of 1000 or more will be 25c per 1000 less than prices named above.

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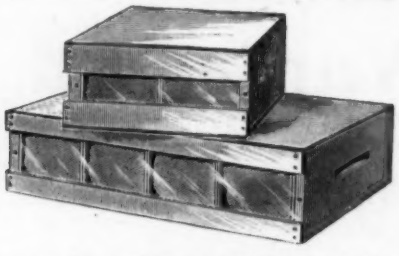

a package for your honey that causes it to bring better prices in the market. Price-list of shipping-cases:

| SHIPPING CASES NAME AND SIZE OF CASE | Nailed, each | Price complete, including 3 in. glass 1 side, nails, & paper—in flat. 1 | 10 | 100 | With 2-inch glass instead of 3, per 100, | Without the glass, per 100 | Wt. per 100—in lbs. |
|---|---|---|---|---|---|---|---|
| 12-inch 4-row for 4¼ sections | 30 | 25 | 2 00 | $18 00 | $17.00 | $16.00 | 450 |
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We carry a complete line of honey-jars. Many styles and prices. Be sure to see our complete catalog for description and prices.

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| 1-pound bags | 3½x5½ | $ 65 | $ 3 00 | $ 5 50 | 10 |
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| 3½-pound bags | 6 x9⅛ | 1 00 | 4 75 | 8 75 | 28 |
| 5-pound bags | 7 x10 | 1 20 | 5 50 | 10 50 | 35 |
| 10-pound bags | 10x10½ | 1 50 | 7 00 | 13 50 | 45 |
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**Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.**

GEORGE W. YORK, Editor | CHICAGO, ILL., JULY 26, 1906 | Vol. XLVI—No. 30

### Sections of Honey Can't Be Uniform in Weight

One of the things which has divided opinion for a long time, and which bids fair to divide opinion for a long time to come, relates to the weight of sections and the selling by piece or by pound. One argues the great convenience of selling by the piece; another argues the great fairness of selling by weight. Every little while, some one, to whom the question is new, appears on the scene with what he thinks is a satisfactory solution of the troublesome problem, and says: "The whole thing is easy; just adopt that size of section which shall weigh an exact pound, and then it will make no difference whether the section is sold by the piece or the pound." But when he attempts to produce a ton of honey with 2000 sections, each weighing an exact pound, he finds himself running against a snag.

The great difficulty in the whole case is the difficulty of producing sections of honey of uniform weight, and this difficulty is too often not fully understood, or else lost sight of, by those who discuss the question. The matter is somewhat complex, several factors having a part in it. Let us suppose we have found a section of such size that we think it will weigh when filled just 16 ounces, and let us see some of the things that will interfere with having that weight constant.

Let a colony be badly crowded for room, and the sections will be considerably heavier than when more room is furnished than the bees have any possible use for. This, however, is a difficulty that can be largely avoided by the careful operator.

Bees vary in their characteristics, and 2 colonies, under precisely the same conditions, will produce sections of honey of unequal weight. Careful selection in breeding may produce such uniformity throughout the apiary that this factor shall practically disappear.

At one time in the season, nectar comes in with a rush, at another time very sparingly; with fatter sections in the one case, and leaner in the other. Against this the bee-keeper has no remedy.

Not only is there a diffence between one part of the season and another part, but there may be a radical difference between one season and another—a difference against which the bee-keeper is utterly helpless.

There may be other differences, but these are enough. If the difference in weight between the lightest and heaviest section of honey were only a fraction of an ounce, it might be ignored as unworthy attention. But when a difference of 3 to 6 ounces is found between the lightest and the heaviest sections, and when there is a difference of 2 ounces or more in the average weight at one time and another, as some have said is the case, this matter is one that must be taken into account.

It is not the present object to argue whether it is better to sell sections by the piece or by weight, the only object being to show that to find a section of such size that it shall always weigh an exact pound is one of the things that may be dreamd of, but never attained in actual practise.

### Improvement of Bee-Stock

D. M. Macdonald wisely says this in the British Bee Journal:

> If bee-keepers would only spend half as much time over this question as they do over some other things, the whole bee-keeping world would be better off.

Neither does that mean that a few of the greater lights should turn their attention to it; for every bee-keeper with only 5 colonies can make a difference in his yields by seeing that new queens come from his best colonies. And as has been heretofore shown, he may do no little in this direction without ever seeing a queen—even with box-hives.

### Economizing Apiary Ground-Room

It is often desirable to have hives as close together as possible for the sake of saving room, and always desirable for the sake of saving travel from one hive to another. By putting the hives in pairs, the two hives of each pair so close as to be almost touching, 60 percent more can be put on the same ground without increased danger of bees, and especially of virgin queens, entering the wrong hive. In Gleanings, E. F. Atwater offers a plan to help still more against this danger. It is to have the alternate pairs at different heights; the first pair on a low stand, the next 12 or 18 inches, and so on.

### Sweet Clover on a Large Scale

In the following communication from W. H. Mills, of Nebraska, he mentions as a disadvantage that the plant is a biennial, hence there is a year's waiting for the nectar, no bloom appearing the first year, the plant dying root and branch after blooming in its second year. Some have practised after this fashion: Sow sweet clover with oats, getting the crop of oats to pay for the land while the sweet clover is making its first year's growth; let it alone the second year, then plow up and sow oats the third year, and every alternate year thereafter. The first year will be the only seeding with sweet clover, as it will self-sow thereafter. There would be no difficulty in land like that of Mr. Mills, which does not heave in winter, but in some soils it would be necessary either to roll the ground very hard or to bury the seed deep. But here is what he says:

> I make no use whatever of catnip except for the bees, and only grow it about the fences and hedges, and in a small way in the fields.
>
> Sweet clover can be used for hay, and makes splendid hay, but does not get made into hay on this place for lack of time to do it.
>
> I had 40 acres seeded in sweet clover, but some of it is so thin a stand that I am plowing it up, and shall reseed this fall. Our soil never heaves, as it is sandy.

American Bee Journal

Catnip has an advantage over sweet clover—it blooms every season, and does not die and have to come again from seed as the clover does. The clover must make one season's growth, and then it will bloom the next; in other words, it is biennial, and you only get a bloom every second year.

I think the very best way to get a good stand of sweet clover is to scrape the seed together with about half an inch of the surface soil from an old field of sweet clover, and scatter it all together in that way. The new seeded plot gets the bacteria into the soil at the same time it gets the seed.

It is my aim to get in a few more acres of the sweet clover each year until I have in 100 acres, and it will be solely for the honey. But it is also of great benefit to the soil, and not the least trouble to get rid of when you want to use the land for something else. If the people down in Dixie, when they turn out an old worn-out field to rest and recuperate, would seed it with sweet clover, it would be fertile again very much sooner then to let it grow weeds and brush.

There are no signs of foul brood as yet, and I verily believe that it was caused wholly by the salt and sulphur. I know it is hard for a doctor to believe that disease can be cured without a doctor's medicine, but I think it has been done, and I think it will keep all colonies clean and healthy, to keep the bottom-boards covered with salt and sulphur. W. H. MILLS.

A course of sulphur and salt can do no harm; but if readers of this Journal find foul brood appearing in their apiaries for the first time, they are not strongly advised to place entire dependence upon sulphur and salt.

**Louis H. Scholl**—in charge of the "Southern Beedom" department of the American Bee Journal—was married June 21, according to the following paragraph:

At the home of the bride's parents, Mr. and Mrs. William Froelich, last night at 8:30 o'clock, Rev. G. Morhinweg performed the ceremony uniting in marriage Miss Emmy Froelich and Louis H. Scholl. The wedding was a pretty little home affair and was witnessed only by relatives of the contracting parties. The bride is one of New Braunfels' most popular young ladies, while the groom is one of the best known young business men in this section.

Heartiest congratulations to Mr. and Mrs. Scholl. May their years of wedded bliss be many, and their happiness increase as time goes on.

**A Visit to Dr. Miller's,** at Marengo, Ill., was again made this year on July 4th by "Ye Editor" and wife. It was a most beautiful day, which gave better opportunity than last year for taking pictures. On the first page we present 4 of them.

Dr. Miller is now running two apiaries, one at home and the other an out-apiary 3 miles away. There are 160 colonies in the two yards. Although there was an abundance of white clover in bloom, the bees had gathered nothing more than a mere living for themselves. The basswood trees were just coming into full bloom when we were there, and the bees were humming on the blossoms, which made each tree sound like swarming-time. The Doctor said that the basswood bloom this year was the fullest he had ever known. The row of trees numbering about a dozen, shown in the picture on the first page, is along the north side of the driveway (leading from the main road to the house in which the Doctor and his family live), being about 20 rods in length. The basswood trees were something like 30 years old, and the largest about 15 inches in diameter a foot or two from the ground. The basswood is not a rapid grower, but it is a very fine tree for beauty, for shade, and often for honey.

The milkweed was also in full bloom when we were there, and the bees were working quite thickly on it. There is a peculiarity about the pollen of the milkweed that is very disastrous in its effect on the bees. It seems to be so sticky that when the bees touch it with their feet it holds them, or, in case they are able to pull away, a little of the brown pollen sticks to their feet. We found many blossoms where the bees were unable to get away, and had died there. In fact, one or two of the blossoms shown in the picture had several dead bees attached to them. Of course, they were too small to appear in the engraving. Almost every summer, about this time, some bee-keeper sends us a sample of bees with the small pollen-masses of the milkweed attached to their feet, and desires to know what it is. We received such a sample a day or two after returning from visiting Dr. Miller. We do not recall now just where it came from, but it was the real thing, as we have mentioned. In a locality where there is much milkweed bloom undoubtedly many bees are lost during its blossoming period.

The sweet clover was in the height of its blooming on July 4th, as is plainly shown by the pictures. There is quite a lot of it growing along the roadsides in Marengo. The sweet clover with Dr. Miller standing in it was only 3 or 4 rods from his house, and some of it was 7 feet tall.

Dr. Miller still continues to be the leading writer on bees and bee-keeping, although in his 76th year. His health is better now than it has been for several years. Miss Emma Wilson is still his assistant in the apiary, although during this poor season there hasn't been so very much to do either for the chief or his assistant, unfortunately.

We arrived in Marengo on the evening of July 3d, and returned to Chicago the next evening. A day with Dr. Miller and family is surely a treat. At least two Chicago people appreciate the privilege of spending such a day.

**Mr. Orel L. Hershiser's Little Boy,** 1 year and 10 months old, set his clothes on fire in exactly the same manner as did his little sister last winter. That is, he struck a match which he got from what was supposed to be a place out of his reach. After the accident of the little girl his parents dispensed with ordinary matches and adopted the safety ones which require the box to strike them on. Every precaution was even then taken to keep them out of the reach of the children, but the little boy pulled them off a high stand which had a pin-cushion with a fringe hanging therefrom that he could reach. He had seen his elders light matches on the box, and so of course he wanted to imitate them. Fortunately his papa was in the next room, and, on hearing the little fellow crying, ran to him and soon extinguished the flames, but not in time to prevent a bad burning of the hands, neck, ears and face. Fortunately, however, there will be no scars, as the burns were not very deep.

It is strange that both of Mr. Hershiser's children should suffer from a similar accident. But all will rejoice with their parents that the little ones were not lost through the burning.

**Hon. Eugene Secor,** of Forest City, Iowa, has kindly sent us a souvenir postal card, reproduced herewith, which

was sent to him by Frank Benton, from Baluchistan.

When sending the card, July 9, Mr. Secor wrote as follows concerning the prospects for honey in his locality:

Bees have not been doing very well here this year up to the present time. White clover seems plentiful, and basswood is just opening. The bees were mostly in a starving condition at the beginning of white clover bloom, and unless they were fed up they were not in the proper condition to take advantage of it.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

American Bee Journal

## The Relations of Insects and Flowers

BY G. M. DOOLITTLE.

PICKING up a paper lately, I ran across these two sentences: "Honey is a vegetable production, appearing in greater or less quantities in every flower that nods to the breeze or kisses the bright sunlight. It is secreted in the flowers for the purpose of attracting insects, thus securing the complete fertilization of the female blossom." In another place in the same paper I found this: "Pollen is borne from flower to flower on the breeze as well as on the bodies of insects; in fact, that seems to be nature's prime method of carrying or conveying the fertilizing germs from the anthers of the staminate to the pointals of the pistillate blossoms." And this paper is considered as an authority when treating on plants and flowers.

I do not deny that there is truth in both of the quotations, but there is enough of untruth in both to mystify the unwary, as is always the case where anything is told that is part truth and part falsehood. When we apply these quotations to certain plants and trees they are not true; neither is it true that "every flower that nods to the breeze secretes nectar." There are some points in this matter which either myself or others fail to understand, and as it has a direct bearing on our beloved pursuit—bee-keeping—perhaps an article to draw others out, so that more light may be obtained, may not be amiss; especially as knowledge along this line will help bee-keepers to disarm the jealous who seem to think the bees are injuring them by taking sweet from the flowers which bloom on their possessions.

I understand that the first purpose for which the honey-bee was created, was for the fertilization of the flowers, while the storage of honey was only for the preservation of the life of the bee, so that the perpetuation of the species might continue for their purpose (the fertilization of flowers); that man, after a period of time, found that honey was good to eat, and thus utilized the product secreted by the flowers and stored by the bees; man using the honey as his food, while the bees perished from such colonies as were robbed by man; that, as the years went by, man learned that the bees would store more honey than their wants required, so surplus apartments were furnished the bees, which were removed when filled, thus leaving enough honey in the hive or home of the bee to supply all its needs; and from this surplus came the honey of commerce, and our industry of apiculture.

If I am correct in the above, and I fully believe that I am, the people of the world have the bee-keepers to thank for bringing the bee from its primeval home (the hollow tree, especially as our forests are fast becoming obliterated by the advance of civilization), and scattering it broadcast throughout the land, to fertilize the ever-increasing millions of flowers (increased through the increased acreage under cultivation each year), which would otherwise be unproductive in fruit.

But to return to the two paragraphs quoted. While I believe that the bees were created for the fertilization of flowers, yet I also believe that not over one-half of the different species of plants and trees require the aid of the bee to fertilize their flowers, and that only those which require the aid of the bee secrete any nectar; hence I said that it was not true that *every* flower secretes nectar. In this we see the wisdom of the Creator—bees created to fertilize the flowers which could not be fertilized in any other way, and nectar placed in these flowers to draw the bees to them. Thus we have the clovers among grasses secreting nectar, while the timothy, orchard, june, red-top and other grasses do not secrete nectar, for they are capable of being fertilized by the "breeze."

All the fault I have to find with the second quotation is, that it is represented that both the breeze and the bees may be needed to fertilize the same and all plants; while I believe that plants and trees which can be fertilized by the breeze, do not need the aid of the bees; and that those requiring the aid of the bees cannot be fertilized by all the breezes that ever blew. To be sure, bees sometimes collect *pollen* from many flowers which do not require their aid; but as I said before, *nectar* is secreted only by those which do.

Take the flower of the squash for instance: Gregory, who is certainly good authority, in his treatise on this plant, tells us that squashes can only be fertilized by the aid of the bees and other insects, and proves the same by giving experiments tried where fine netting was placed over the female flowers on certain hills, when not one of the flowers thus treated produced a squash; while the hills not so treated gave a good crop. Any one looking at a pumpkin or squash flower will at once come to the conclusion that it is impossible for the wind to carry the pollen from one flower to another; hence we find it secreting nectar to attract the bees.

Prominent among this class of flowers which needs the bee to fertilize them, and secrete nectar for that purpose, we have the clovers, fruit-trees of all classes, willow, hard maple and basswood or linden trees, buckwheat and many of the fall flowers. Of the class that does not need the aid of the bee I will mention grasses of all kinds growing in this locality, except the clovers, grains of all kinds (except buckwheat), and many of the trees of the forest, such as beech, birch, ash, chestnut, butternut, etc., none of which produce nectar, either in a "greater or less quantity," no matter how nicely they may "nod to the breeze, or are kissed by the sunlight."

In the above I have given my views regarding this matter, and stand ready to be corrected by any one who can show that I am wrong. I am no botanist, therefore cannot give a scientific article on this subject; but if there are any botanists among the readers of the American Bee Journal, myself, and I think all of its readers, would be pleased to hear from them on the subject. Borodino, N. Y.

## How to Prepare for the Honey-Flow

*Read at the last Illinois State Convention*

BY J. E. JOHNSON

This is a subject on which many bee-keepers differ in opinion, but I will try tell how I am able to obtain the best results in building up or getting colonies strong in spring, so as to be ready for the honey-flow.

First, let me say that if a colony is just fairly strong in young bees, with all the brood in the hive that they can take care of, and only a few field-bees, they are not ready for the honey-flow, but they should have a large force of bees over 15 days old. From close observation I find that in a good honey-flow bees that are only 15 days old will begin as fielders. We should also have many younger bees to build comb and do other indoor work. When we do give attention to this matter we often find that the hives do not become well filled with bees until the honey-flow has been on for some time, and thus we lose a good share of our crop, and get our bees strong about the time the honey-flow closes; thus the field-bees become consumers instead of producers.

In the spring, in my locality, the soft maples that grow near the water's edge along the river begin yielding pollen during the last part of March or first of April. After the maples is the elm, then red willow, box-elder, wild gooseberry, wild plum, Japan plum, and pears, then cherries, apples, and last of the tree fruits is the wild crab-apple; then raspberry, blackberry, and last, white clover and basswood. Now if we could have fine weather during all this bloom my bees would need no tinkering with at all, as they would be in fine shape to take care of the honey-flow; but nearly every year I find that we have so many bad-weather days that often the bees can only work on this early bloom a part of the time, and thus they do not build up to strong colonies as they should. So I try to produce artificially, as near as I can, the same results as though the weather was favorable. This I do by stimulative feeding, and although I am aware that I am treading on dangerous ground, I will explain how I do this.

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Dr. Miller has been asked the question, "Shall I feed to stimulate brood-rearing in the spring? and shall I spread the brood?" His answer was in this wise: "Stimulative feeding and spreading brood is a pretty safe thing for a beginner to let alone;" which is no doubt true, but I would answer it in this way:

Stimulative feeding is important, and brings good results *if properly done;* but spreading brood in the spring should never be practiced, as it nearly always results in harm. If bees are fed properly they will spread the brood as fast as they can cover it to keep it warm.

My hives all face the east, and in winter and spring they are covered with four thicknesses of newspaper on all sides except the front of the hive. It is very necessary that the hive be warm during cold spring winds. I use an empty super over the brood-frames which contains clean rags, cloths, carpet, or anything that is clean and warm. I feed only at dusk in the evening, and feed only sweetened water, using about ¾ luke warm water and ¼ honey or sugar, and never begin feeding until maples are in bloom.

I use an atmospheric feeder, which is made by punching small holes in the *edge* of the cover of a pint Mason fruit-jar, or jelly tumbler. This feeder I place upside down on a little block on the brood-frames under the cushion or cloths. If a Mason jar is used, 2 empty supers are required, as one is not high enough; but usually I use jelly tumblers, and for ordinary colonies that have considerable honey in their hives I consider one tumbler full enough at one feed; but if they are a little short of honey I give them a full pint.

When the day has been warm, and they have been gathering pollen freely, they are not fed at all, unless they are short of honey.

The reason I feed sweetened warm water thus is as follows: It does not tax the strength of the bees to the extent that it does for them to fly out in the cold wind and sip the almost ice-cold water from the puddles on the ground. Bees carry lots of water in the spring to be used in rearing brood, and I am satisfied that each colony loses many—perhaps thousands—of bees that become chilled by carrying cold water; not only so, but the temperature of the cluster of bees in the hive is lowered, and thus the brood becomes chilled.

Some bee-keepers claim that feeding causes bees to fly out more in cold weather, but I find that when I feed as above described they do not. They may buzz around in the morning, but if they have a supply of warm sweetened feed the evening before, they soon become satisfied; while colonies suffering for water will send a lot of bees for water, and thus they dwindle. Any practical bee-keeper can readily see that a few more bees reared in early spring, and a few saved from becoming chilled, will mean many more bees later on when they are so much needed. And if many more are reared, and many saved, a very strong colony at the beginning of the honey-flow will be the result.

There is one more point I wish to mention, which is this: When a colony of bees are fed every evening when the day has not been favorable, they have a continual income of food, and brood-rearing will be steady, and not spasmodic. Not only so, but the bees will evaporate this sweetened water to some extent, and their continual activity will cause the queen to become more prolific in her egg-laying.

Now I doubt not many bee-keepers will say that a tumbler of sweetened water would not amount to much, but I find bees should not be fed much, but just enough to supply water for the brood, and have continual work.

Three years ago I succeeded in getting 250 pounds per colony on the average, ¾ of it being comb-honey, and I increased my colonies 400 per cent, notwithstanding they were very weak in the spring. I have some neighbors who are pretty well up-to-date bee-keepers, but they did not feed in the spring, and none of them averaged 100 pounds per colony.

Some bee-keepers will say that if you succeed in getting your colonies in a very flourishing condition, they will spend their time in swarming, and not in gathering honey. Let me say that such is sometimes the case, but if you succeed in getting very strong colonies the swarms will be large, and if manipulated properly, they will gather lots of surplus honey.

If white clover is abundant and shows signs of profuse blooming, or if basswood trees show signs of abundant bloom, I give first a super of shallow frames—combs if I have them—and let the bees use them for brood-rearing until the beginning of the honey-flow. This will prevent the swarming fever, to considerable extent.

I have had new swarms, when they were very large, to fill 60 sections in less than 2 weeks; but of course not cap them all.

A colony of bees gather at least from 100 to 200 pounds of honey annually to keep up brood-rearing, and for winter stores, even if we get no surplus; and if I have a clover or basswood honey-flow, with plenty of bees in each colony as fielders, it won't take long to get an extra 100 pounds of surplus honey per colony. Williamsfield, Ill.

Conducted by MORLEY PETTIT, Villa Nova, Ont.

## Strong Colonies

This season has impressed upon me more strongly than ever the absolute necessity to insure sucess of having colonies *strong*. With many of us the very mild winter of 1905-06 was extremely trying on cellar-wintered bees. Consequently some of the colonies came through the spring in a weak condition. These have been almost at a standstill ever since. While strong ones have gained tremendously and stored some surplus, medium ones have built up strong, but have stored nothing, and weak colonies are weak still.

The questions arise, Why is the great difference in strength of colonies? For how much are the queens to blame? To get at this matter more carefully, I have not practised equalizing brood at all this year. If a queen is poor or failing, I see no object in bolstering her up at the expense of a good queen. Her work is watched from week to week, and if she does not gain—if the brood-chamber assumes that honey-bound appearance so indicative of a poor queen—off comes her head.

## Ontario Honey-Crop Reports

This department will be glad to receive, short, post-card crop reports from all parts of Ontario. Those received already are not very encouraging. Norfolk County reports no white honey in the south, owing to continued dry weather in the spring. North Norfolk has some surplus, but very little. Brant County seems about the same.

H. G. Sibbald, of York County, has about 25 pounds per colony.

R. H. Smith, of Elgin County, has about the same, and Wm. Couse, of Peel County, is no better off.

J. R. Colman, of Middlesex County, can report nothing better.

Since writing the above the following reports have come in, and are monotonously bad:

Martin Emigh, of S. Oxford—"No clover."

B. Davidson, of Ontario County—"Failure all through."

W. H. Bowen, of Niagara Falls—"Failure; will have to feed for winter."

Edwin Dalton, of Halton—"Clover very light; basswood prospects good."

J. F. Davison, of East York—"Nearly total failure."

J. J. Hurley, of Brantford, sends the best report I have received yet. He expects 50 pounds per colony.

Jas. Jack, of Haldimand—"Bees doing nothing."

M. B. Holmes, of Leeds County—"Failure."

C. C. Farran, of Farran's Point, on July 11—"Bees are working well these 5 or 6 days on white and sweet clover; have had but 1 swarm yet; supers are about half full on about one-third of the colonies."

J. B. Hall, of Woodstock, reports very little honey, and excessive swarming.

Chris Grimalby, of Owen Sound, says the season is very poor.

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John Fixter, of Ottawa—"No prospect for any white honey—clover all winter-killed. Basswood loaded with bloom, but no honey. We are sowing a few acres of buckwheat with the hope of a fall flow."

W. H. Kirby, of Ontario County, June 10—"We had a very favorable fruit-bloom, and got some half-depth supers of apple honey. When apple and dandelion played out, the queens stopped laying, and colonies were none too strong when raspberry bloomed (which is our principal crop), and some white clover. Bees have been working on white clover the last few days. Will have a half crop or more. Can't tell just yet."

Who said raspberry-bloom in Michigan? We have it right here in Ontario. The fact that Mr. Kirby's queens stopped laying after fruit-bloom points rather forcibly to the necessity of stimulative feeding, even when there is honey in the hives.

J. L. Byer, of York County—"Conditions just the same as with you. Rain nearly every day for 5 weeks. No honey in clover, even when we have a little sunshine."

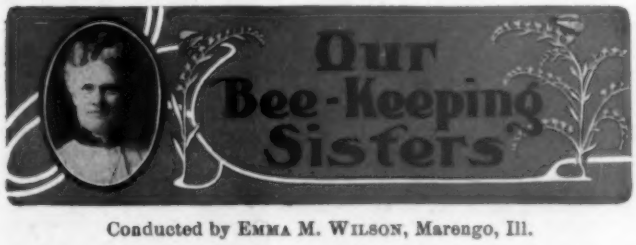
Not just the same, Mr. Byer. We have not had enough rain—but very little honey, just the same.

## Slipshod Bee-Keeping—Who is to Blame?

It was the writer's privilege to make a small purchase the other day in a bright, attractive grocery store in one of our Canadian towns. Floors, counters and shelves were clean and shining. The office fixtures at the back were of the most approved style. The goods, almost all in colored packages, were arranged in a way that showed good taste in display.

But, alsas, there was a blot. One object marred the whole picture. There was one dozen sections of honey, well-filled, but terribly travel-stained and not scraped, in a basswood case whose soiled appearance bore testimony of years of service. Who is to blame for this reproach on modern honey-production? Is it the grocer who does not keep such an unsightly object hidden under the counter, or the bee-keeper who allows his goods to go on the market in such slipshod fashion?

Do not let the reader think there is any personal reference in the above. Such honey can be seen in almost every town in Ontario. More's the pity. How can we expect a growing demand for such stuff? Less wholesome goods, put up in more attractive dress, are sure to win out against Nature's purest sweet.




Conducted by EMMA M. WILSON, Marengo, Ill.

## Piping of the Queen—Finding Queens

DEAR MISS WILSON:—I have not asked a question for a long time. I may ask you several.

On June 13, I had a large swarm issue from my only Italian colony. The swarm would fill a water-pail and they clustered very conveniently low on a young cherry-tree on the lawn. After hiving the swarm on the old stand and moving the parent colony I at once examined the condition of the latter and found a lot of queen-cells. On 1 frame were 5 fine cells, and as I had thought of giving a new queen to a couple of weaker colonies, I decided to replace the frame with the 5 cells till I could read up a little and think it out by myself when I was not rushed. All other queen-cells I cut.

The next day I went to that hive with the intention of cutting out all but 1 fine cell, and was a little surprised to see 1 cell empty, and on opening the hive I imagined—yes, I was sure—I heard the young queen piping. I have read a good deal of the piping of a young queen, and was not a little anxious to know the experience. On opening the hive I very clearly heard a sound similar to this: "we—we—we—," in a high pitch. Was I right? Was it the young queen? I was so sure, that I at once cut out all the rest of the queen-cells.

The weather since has been very cold and it has rained nearly every day. I opened the hive this morning and still no eggs or young brood? Should I be alarmed? Did I make the colony queenless, do you suppose, in my ignorance, or has the queen not been mated on account of bad weather, or possibly lost?

This same colony last year was not satisfactory. In the first place in transferring it I killed the queen, and did not discover it for 21 days, when I took away the old combs. Then I sent away and got a pure Italian queen. All summer they sulked, and while the colony became good and strong for winter and gathered a lot of stores for its own use, it only stored about one pound for me. But you never saw such a job of propolizing. All the sections looked as if they had been pasted full of old-fashioned spruce-gum. The sides of the hive and top of the frames were worse than the sections. But the bees wintered well. I do not think I care for any more Italians.

My hardest problem now is to be able to find a queen quickly. I have asked you this question before, and did just as you told me, but it seems almost impossible for me to find a queen. Perhaps my eyes are not sharp enough. At any rate it bothers a good deal. At times when I want to give a k eolony brood and bees from a strong colony it is of course very necessary to be sure not to take away the queen. On account of not being able to find her readily I am always afraid to do this.

(Miss) ELSIE A. CUTTER.

Grand Rapids, Mich., June 22.

Yes, you were all right in thinking that the "we—we—we— sound in a high pitch" was the young queen piping, although generally the note of a piping queen is represented by "peep—peep—peep," or "zeep—zeep—zeep." Had you caught sight of her, you would have seen a peculiar motion of her body as she made the sound.

The swarm issued June 13, and 9 days later (June 22), you seemed disappointed not to find the young queen laying. Don't you think you were a little exacting in expecting a queen to lay so young? Usually the young queen in the mother colony does not begin laying until she is about 10 days old, or about 17 days after the issuing of the prime swarm. But in your case things were hurried up, for the queen was piping the next day after swarming. Very likely that was because the bad weather had hindered the issuing of the swarm. In any case she was probably not more than 8 days old the 22d, and the bad weather might make it several days after that before she would lay.

Don't condemn all Italians because that one colony was so active in the "spruce-gum" business. Italians are not especially bad at propolizing.

When you want to take away a frame of brood and bees, it is not absolutely necessary to find the queen. Just select the frame or frames of brood you want, shake or brush off *all* the bees, put the brood in an empty hive-body, and put this over the colony, with an excluder between the stories. Two or three hours later the brood will be covered with bees, when it can be taken away without fear of taking the queen. One advantage of this way is, you will have nothing but younger bees, with less danger of fighting when put in a strange colony.

If you want to use several frames you can make a wholesale job of it. Take as many frames as you want and put them into an empty hive-body. Now set this over an excluder on a strong colony that has been drawn from. By the way, this is an excellent plan to form a new colony. Just take this upper story, after it has had time to be well stocked with bees, set it on a new stand, give a queen-cell, or a queen, in a provisioned cage, and there you are. The bees act much as queenless bees, and very few of them will return to the old colony.

## Snakes and Bees—"Hybrid" or "Cross"

DEAR MISS WILSON—I find no report of snakes troubling bees, but at least mine were annoyed, for they killed a half

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dozen or so. Some of them were very dark on the upper side, and salmon-pink or copper-colored on the under side. What kind of snake was it, and does it do any damage?

There seems to be more or less discussion over the use or misuse of the term "hybrid," and being a "tenderfoot" (1905 was my first season). I would like to ask the difference between a "cross" and a "hybrid." My dictionary doesn't give any.

Osceola, Wis., June 12. BEE-FARM.

Snakes are not supposed to do any damage to bees. We have found them curled up in our hives a number of times, but they didn't seem to be doing any harm. I don't know what kind of snakes yours were.

A mixture of Italian and black blood makes a "hybrid" or "cross." The two words mean the same thing, although it seems a pity that the word hybrid ever came into use with that meaning.

## Bees Rolling in the Honey

I am getting some honey. Bees are in fine condition, and are rolling in the honey for me.

Littleton, N. H., July 5. (Mrs.) F. M. GLESSNER.

They say, "Misery loves company," and we are getting no honey; but in the present case we are glad to forego even such pleasant company as you, Mrs. Glessner, and heartily congratulate you on your good harvest.

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

## Bee-Products in Arizona

**The following is clipped from circular No. 48, "Timely Hints for Farmers," of the University of Arizona Agricultural Experiment Station, and contains many items of interest. To "us Texans" it is interesting to note that the first colonies of Arizona's bees came from our grand State. The notes on the honey-plants and their yields have been of especial interest to me, since much of my time was devoted toward getting up an herbarium of Texas' honey-yielders. Here is the Arizona matter:**

It is stated by Indians and white pioneers that the honey-bee was unknown in Arizona until American occupation. The first colonies probably drifted in from Texas with adventurous settlers not long before the middle of the last century. In 1878 John B. Allen brought a number of colonies to Tucson from California as a business venture; while in Salt River Valley bee-keeping began early in the '80's.

The last census enumerates 18,991 colonies in the Territory June 1, 1900, with a product during 1899 of 930,420 pounds of honey, and 13,080 pounds of wax, having a total valuation of $67,489.

The sources of our honey are the desert flora and cultivated crops, chiefly alfalfa. A few of the principal producing plants and their seasons are as follows:

| | Time of Blooming. |
|---|---|
| Mesquite (*Prosopis velutina*) | April–July. |
| Screw bean (*Prosopis pubescens*) | April–July. |
| Catclaw (*Acacia greggii*) | May–June. |
| Acacia (*Acacia constricta*) | June. |
| Paloverde (*Parkinsonia torreyana*) | May. |
| Desert flora (*Miscellaneous*) | Depending upon rainfall. |
| Alfalfa (*Medicago sativa*) | April–September. |

The wild honey-plants, because of grazing animals and of woodcutters, have greatly decreased within recent years. The area in alfalfa, on the other hand, is constantly increasing; but without a corresponding increase in honey-producing power. This is due to two principal causes: Farmers are now cutting alfalfa for hay at a much earlier stage in its growth than formerly, not allowing the plant to come into full bloom; and the alfalfa butterfly (*Colias eurytheme*) has so increased in numbers since 1895, that the honey-flow, which used to continue well into September, is now cut short in July. It is difficult to state the net effect of these changes upon the producing power of the country as a whole; but in Salt River Valley under present conditions, judging from the shipments made during the last few years, our present irrigated areas, with adjoining desert tracts, are pretty fully stocked with bees. Other parts of the Territory are as yet less thoroughly occupied.

The quantity and character of the nectar produced by representative honey-plants are of interest in connection with the amount and quality of honey producible within a given territory. The following results were obtained by selecting typical plants or areas, estimating the number of blossoms, and determining the sugars in samples of average flowers:

| Variety of Plant | Dimensions | Total No. of blooms | Sugars in each bloom | | Calculated to honey (18 per cent water) produced by plant |
|---|---|---|---|---|---|
| | | | Cane | Invert | |
| | | | mgs. | mgs. | |
| Mesquite (Prosopis velutina) | 15 ft. high, 30 ft. broad | 50,000 | 5.7 – 4.8 | 9.1 – 17.0 | 2.53 lb. in 1 medium tree |
| Catclaw (Acacia greggii | 6 ft. high, 10 ft. broad | 15,000 | .4 | 8.4 | .36 lb. in 1 medium bush |
| Acacia constricta | 9 ft. high, 12 ft. broad | 70,000 | .17 | 1.9 | .39 lb. in 1 large bush |
| Alfalfa in full bloom | 1 square rod | 50,000 | .36 | 2.2 | 55.9 lb. in 1 acre |

The figure for alfalfa is especially interesting and corresponds roughly with such farmer's estimates of yield as "a can of honey (60 pounds) to the ton of hay." Invert sugars are seen to vary from 1.6 to 21 times (averaging 8.6 times), the amount of cane-sugar present in the flowers.

The quality of Arizona honey varies with its source as well as with its treatment and preparation for market.

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

## Wax-Extracting Methods

Bully for him! F. Greiner proposes to have a large and excellent solar wax-extractor, and deliberately sacrifice the confessedly large amount of wax which the solar will not get. Cause why? He finds a day of hard and disagreeable work only gets out 3 runs of 5 pounds each; and decent pay for such work would take a lion's bite out of what it brings. *Cheaper* to waste a third of it. Some years my practice has been to run pretty much everything through the solar and *keep* what remains—worms do not seem to work in it after such a heating as it gets—then the accumulation of years can be re-treated at once. But his scheme to have all difficult material rendered on shares by a common establishment run by an expert, that scheme will fail, I reckon. Wouldn't if all brethren were like him (or like me) but fail because so many have exaggerated ideas about how much wax is in a pound of dirty old comb. In other words, patrons (without intending to be hoggish) would want for their share all the wax, and more, too. Page 485.

## Floats for use in Feeding Bees

Coverdale, in speaking of his big feeder made with oilcloth and an empty super (as nearly all writers who get on the same ground) makes rather light of the difficulty of the bees getting drowned. I have wondered some why a difficulty so provokingly insoluble to me seems to be so trifling to others. Hard for me to find a satisfactory float for bees on honey—or on water, either, for that matter. When the float seems to the keeper's eyes to be all that can be desired, bees will still get daubed and killed by their careless rushing around, and by piling onto one anothers' backs. Some floats soak up too much honey, some have far too little hold-up power, some call for too-muchee everlasting fuss—fuss to get the surface covered properly and none of the material sprawling and sprangling outside; some get sour or corrupt too easily, and nearly all make too much after-daub to clean up things. I have been giving grape packing of cork a high place—but perhaps that's only because I never

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used it. Floats for water mostly get water-logged and sink after a few days' use. Even while they float, often the upper surface is so communicative of wet that bees on cold days suffer. Page 501.

### German Full-Depth-Cell Comb Foundation

Prof. Cook on page 502 is not quite definite enough to satisfy me. It's one thing to make a little foundation with cells full-depth just to show what can be done and quite another thing to produce it commercially cheap enough for use. Whether or not Otto Schultz has such wonderful foundation for sale (page 502) don't enable me to "sabe."

### Keeping Choice Bees from Getting Mixed by Banishing Drone-Comb (?)

I've howled several times, and 'spects I must howl many times more, against the doctrine Dr. Miller doses New York with on page 489. This child wants to keep some choice bees from getting mixed, and is deluded with the vain hope that banishing drone-comb from undesirable colonies will suffice. Awfully insufficient. Practically, you can't keep a rousing colony of bees from rearing *some* drones if they want 'em. And the few they do succeed in getting *will do more mischief—meet more queens—than ten times the number of ordinarily-reared drones would do*, on account of being pampered and treated at home much as the queen is treated. This is the straight truth (as it seems to me) on a rather important subject. I think that apiarian children *usually* accomplish just the opposite of what they intend in their efforts to suppress certain drones—did exactly that myself when I was a child.

### Returning Swarms—Orange Honey

C. W. Dayton's article on page 503 has more cuds than one for us to ruminate. His style of returning a swarm is particularly worthy of thought. (1) Take away their queen. (2) Keep them prisoners awhile. (Wish he had named the approximate number of hours.) (3) Let them fly home *gradually*. Extracting time sometimes is robbing time as well. To keep robbers from pouncing upon dauby emptied combs he has them strongly perfumed with carbolic acid. (Vapor only, I understand.) Fumes gradually disappear and do no harm to the colony to which the combs ar given. But it keeps them from making fools of themselves, and ceasing to guard entrances, under the impression that a boundless supply of plunder has dropped down. A rather happy case of killing two flocks of birds with one stone. That orange honey from Riverside should be water-white, and orange honey from Chatsworth, not very far away, should be dark—well, we'll eat a grain of salt on the strength of that. Both gathered from something else than orange, I don't know.

## NATIONAL AT CHICAGO

### Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill., Dec. 19, 20 and 21, 1905

[Continued from page 622.]

Dr. Eaton, of Chicago, then addressed the convention as follows, on,

### DIETETIC AND HYGIENIC RELATIONS OF HONEY

The paper that I have prepared is perhaps of more value or interest, or was prepared more for the general public than for bee-keepers, because I suppose all of you are wise enough to use plenty of your own product; in that respect being different from the dairy farmers of Holland, who sell their fine, high-priced butter, and import *oleomargarine* for their own use. I hope it will have some interest for bee-keepers.

Food-stuffs are divided into three great classes, protein, fat and carbohydrates. Honey belongs to the carbohydrates. On a strictly scientific basis standards have been prepared showing the amount of each of these food-stuffs a given animal doing a given work should consume. Using Atwater's standards, we find that if honey supplied all the fuel except that derived from protein, a man could eat two and eight-tenths pounds, or in round numbers, 3 pounds of honey per day. This is using strictly the amount of food necessary to maintain man in perfect health as determined by scientific experiment. As a matter of fact, it is probable that a smaller amount of protein in connection with carbohydrates will suffice for body maintenance.

A late investigation by H. Labbe, shows that a healthy man may maintain nitrogen equilibrium on from 1 to 14 grams of nitrogen per day—an amount much less than required in Atwater's standards. Luigi Cornaro, a Venetian nobleman, lived to a ripe old age, subsisting during the last 50 years of his life on less than 12 ounces of solid food a day, and a part of the time on but one egg and a bottle of wine a day. Edison, the inventor, recommends food reduction, and claims to have subsisted for a time on 12 ounces of food a day.

If less protein were employed in the diet, more honey could be used. Of course, it might not be practical to replace all fats and carbohydrates by sugars for an indefinite period, as nature has provided means for the digestion of fats and starches as well as sugars. However, *this* is undoubtedly true as regards the substitution of sugars for fats and starches:

(1). That sugars are more quickly assimilated than any other food, and the energy derived therefrom is more immediately available. For this reason sugar in the form of candy is employed in army dietaries, and especially in emergency rations. Queen Victoria's present of chocolate candy to the British soldiers in the South African War was more than a demonstration of her affection and gratitude; it was an illustration of applying the discoveries of science to practical use. Honey might be used much more freely than at present in soldiers' rations.

(2). The digestion of sugars is performed at less expenditure of energy than other foods; in fact, some sugars are immediately and in natural form taken into the blood. Glycogen, the emergency food of the body, manufactured and stored by the liver, is itself a sugar. Sucrose merely requires splitting into dextrose and levulose. Commercial glucose and honey is practically predigested. Milk-sugar is so easily digested as to be nature's food for the young.

(3). Sugars increase the flow of saliva and other digestive ferments, or more properly speaking, "enzymes," and thus stimulate appetite and aid the digestion of all food. It was once thought that the rapid assimilation and muscular activity shown on feeding sugar was due to this stimulation, but experiments substituting dulcin, saccharin and other sweet substances devoid of food value for sugar, proved that such was not the case. The influence of sugar on the digestion of other foods is, however, a strong argument for the generous use of sugars in the dietary.

(4). Sugar as pure sucrose or as honey is a most concentrated food. Sugar contains practically no water, mineral or other non-digestible impurities, and will keep in perfect condition in any climate.

(5). Sugar is even an economical food. The cheaper varieties of candy, such as stick candy and those so freely advertised at 15 cents a pound, and honey at almost any market price, may displace many carbohydrates and fats at an actual monetary saving. Butter fat, olive and other oils are more expensive, and so are the fats in high-priced meats and poultry. Many vegetables, especially out of season, although greatly inferior to sugar in food value, commanding more than 15 cents a pound, however, can replace even the cheaper varieties of starches at an economic saving.

It has been argued against the use of candies, honey and other sugars that they create digestive disturbances; that they are deficient in iron, lime and other inorganic salts necessary to nutrition, and that they injure the teeth. The first objection may be true in *some* instances with *particular* individuals, and undoubtedly not too concentrated solutions of sugar

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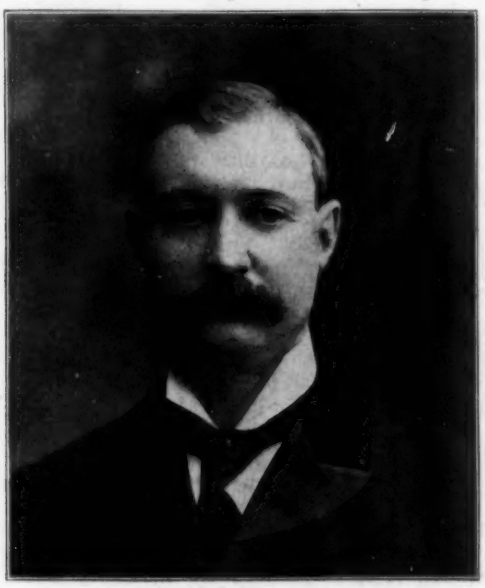
should be digested at a time; the same may be said of other favorite food materials. The objection that sugar contains no inorganic salts is not worthy of notice, unless sugar were to be employed as a food to the exclusion of all other foods. This, of course, is impossible, because sugar cannot supply the necessary protein. When sugar is used as an auxiliary to other food, as it should be, the objection has no weight, as iron and lime are only found in relatively small amounts in the human body and most articles of food contain all the mineral ingredients the body demands, and more.

The prevailing idea that sugar is especially injurious to teeth is probably erroneous, as the West Indian natives, as well as the darkies in the sugar belt, where naturally much



DR. E. N. EATON.

sugar is consumed, have exceptionally good and sound teeth. Exposed nerves are sensitive to sweets, as most mature people know through sad experience. This, however, does not argue that sugar caused the decay. Sugar, like other organic material, will decompose with the formation of acids, such as butyric and lactic, and it is undoubtedly proper, wise and Godly to use a tooth-brush and antiseptic mouth-wash occasionally, whether sugar, honey, candy or other foods are eaten. Sugar, however, is so completley soluble that it would seem that there would be less danger of decomposition in the mouth with it than with other less soluble foods.

In conclusion, notwithstanding the fact that the consumption of sugar has greatly increased in the most progressive countries, reaching almost 100 pounds per capita per year, and in the form of glucose, honey and other sugars, much more than that amount, I see no reason from the standpoint of the physiologist, chemist, or dietist, why sugar in the form of pure candy, honey or other wholesome sweets might not be used much more extensively than it is now, to the satisfaction, and not to the physical detriment, of the people.

E. N. EATON.

Dr. Miller—Most of us came here to learn how to get more honey and we listened to that sort of stuff all day long. But I want to tell you if you can get more of this stuff before the people, so that they will know a little better than they do the facts that Dr. Eaton has been giving us, you will find a better outlet for your honey; and if you can get those facts published in the papers generally, it will be worth a good deal to you, in your local papers and anywhere else. I would like to sit down and study that thing; I don't know enough to swallow it all down just as he reads it off there.

Mr. Root—I would like to know what you consider the comparative value of ordinary commercial glucose and honey as a food?

Dr. Eaton—I made no distinction in the paper between ordinary commercial glucose and honey. As to the food-value of them, they are perhaps something similar, although I should think the honey would have the greater food-value. Commercial glucose contains one ingredient the same as honey, and that is dextrose; but dextrin is not a sugar proper, and, therefore, does not have as great a food-value as honey. I think I am safe in saying that; although I don't know of any experiments that have been made that are directly upon that subject. But my impression is that dextrin is not as digestible or as valuable as a food as sugar proper; and therefore I would say honey is of more feeding value than glucose, even just considering the solids; and usually glucose contains considerably more water.

Dr. Miller—There are certain things in commercial glucose that make it commercial glucose instead of *chemically* pure glucose. Supposing we can get those things out of commercial glucose that would make it *chemically* pure, and put them into honey, how much do you think that would improve the honey?

Dr. Eaton—There is so much confusion in the use of the terms "glucose" and "pure glucose," that I don't believe I can answer the question. When I refer to glucose I refer to the commercial product which is obtained by the action of acids or other material such as *inverts* and ferments upon starch; and that product is only partially composed of sugar—composed of dextrose and dextrin—if you would say pure glucose in the meaning of pure dextrose, it was once a synonymous term with glucose, then I don't believe there would be any great difference in the feeding value of pure dextrose and honey, because there is no difference in the composition or feeding value as far as I know between dextrose and levulose, which are the sugars which compose honey; and so if you add just one of those sugars to honey there would be no difference in the feeding value. But using the term commercial glucose you have quite a different proposition, because there you have dextrin, which is a gum and not a sugar, and not as digestible as dextrose; and in addition to that you have perhaps some *sulphurous* acid in glucose which would interfere with the problem of digestion of the glucose very materially, in my judgment.

Mr. Whitney—I notice the Professor speaks frequently of sugar. Do you mean sugar as we find it commercially sold, or is it sugar such as we find it in honey, and in the commercial world?

Dr. Eaton—I use the term sugar as a generic term, covering a large number of sugars; and if I should use sugar in the sense perhaps that you are more accustomed to using it, meaning cane or beet sugar, I would use the term sucrose, chemically, to determine that sugar matter—sugars that have been obtained from the cane, and maple, and palm tree, and also, to some extent, in other vegetables. But there are a great many other sugars, as the generic term implies; we have the levulose and dextrose; those two sugars are found in honey. We have the dextrose, that is found in commercial glucose, and then we have milk-sugar which is very similar to cane-sugar, and a large number of other sugars which are not so well known; but, so far as I know, there is no great difference in the feeding value of these different sugars. Certainly there is no difference in the fuel-value of the different sugars. That is, one sugar when burned should create just about the same amount of energy as another sugar when burned. That is practically what occurs in the human body. But there may be yet some difference in the digestibility of these diffrent sugars, and there probably is, as milk-sugar has been found to agree better with infants than other sugars.

Mr. McCain—A great many intelligent people are opposed to their children eating a very large amount of sweets. If I understood the doctor correctly, he advocates the consumption of a larger amount, and I think in his paper he put pure candy and honey on a level, and spoke of them together. Now, Doctor, shall we, as bee-keepers, and educators, advocate the consumption of a large amount of sweets against the prejudice of intelligent people?

Dr. Eaton—I do not see why you should not, from a scientific standpoint; nature craves it, and children want their sweets, and I don't believe there is any harm in it, provided you use the pure article. There are a great many of the cheap, inferior candies on the market that I do not think should be placed in the hands of children. But giving them pure sucrose candy, honey-candy, or anything of that variety, and allowing them to use it judiciously, I believe it would be used to the benefit rather than the ill health of the chil-

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dren, providing they were fed on other foods to balance the candy rations.

Mr. Holtermann—I should like to ask Dr. Eaton whether the fact that the bee inverts a very large proportion of that honey, and, therefore, in that respect it is quite different glucose, wouldn't it have a very marked difference, not in the chemical value of the product as a food, but in its availability and liability to be digested?

Dr. Eaton—As far as dextrin is concerned, I should think that would be true; but I don't see any reason as far as the dextrose is concerned, why the dextrose obtained by the inversion of sucrose would be greatly different from dextrose obtained from *hydrolosis* of the stock.

Mr. Root—There is one question here, and it seems to me we are getting to the pivot of an important matter. Dr. Eaton is a chemist greatly interested in the study of bee-keeping. We bee-keepers have said, and we have been taught by certain authorities, that honey is much more easily assimilated than ordinary pure candies. I want to ask whether Dr. Eaton thinks that is correct; whether we have been incorrect or whether we are right on that.

Dr. Eaton—I believe I said in my paper that honey was a partially predigested sugar. Sucrose is not. Honey is properly and originally obtained from sucrose in the form of nectar by inverting the sucrose. Now that is exactly what nature does in the human stomach before it can assimilate the food; and, therefore, honey is a partially pre-digested food, and in that respect is superior to sucrose.

Mr. Chantry—I just wanted to ask the Doctor if glucose could be bought for 4 cents a pound, that we find in stores all over the country, how much could be got for honey for family use? What would be the relative value of that sugar and good table honey?

Dr. Eaton—You would pay a little more from a food-value standpoint; but I don't think you want to estimate the comparative value of honey and glucose in that way, because the value of honey is not altogether its food-value, any more than the value of the higher-priced candies. You pay 60 cents a pound for the best candies, which are no more nutritious than sugar you can buy for 5 cents a pound. There is a value to honey that is different from its feeding value, and that is the value of taste; so that I would not want to estimate the comparative value of honey and glucose altogether on a feeding-value basis alone.

On motion of Mr. Kimmey, seconded, by Mr. Abbott, the convention adjourned.

(Continued next week.)

**Send Questions either to the office of the American Bee Journal, or to DR. C. C. MILLER, Marengo, Ill.**
**☞ Dr. Miller does *not* answer Questions by mail.**

## Hiving United Swarms—Best Hive-Cover

1. Two of my swarms united and clustered on the same limb, and I put them into one hive with empty combs. Shortly after, I noticed that they were killing each other; and the next day the hive was surrounded with dead bees which were carried out of the hive by those left alive. What is the cause of their killing each other? and how may I avoid it in future? I have had this experience two or three times this season. On one occasion, after hiving about half of the bees remained clustered outside of the hive all night, and thinking there was not sufficient room inside of the hive, I put on a second story the next morning, and then shoveled the bees in the top. Soon after, the killing commenced, and the live bees carried out dead bees all day.

2. What hive-cover do you consider best for general use? I bought the Excelsior cover, but today, after a heavy rain, I found a pool of water on the enamel cloth under the cover. Does water usually work under the edges of this cover, or is it through some oversight of mine that the water got there? As the gable cover has more slope, and also an air-space, I have almost decided to order it with my next lot of hives. What do you think of it for general use? NEW YORK.

ANSWERS.—1. It is not usual for swarms to fight when they unite, but it may occur when one is a prime swarm and the other an after-swarm, one queen being a laying queen and the other a virgin, and it is possible that it may occur when both queens are of the same kind. Each queen has its own faction, and they must settle their difference with their lives. If you keep your queens clipped, then no laying queen can go with a swarm to make trouble. Without clipping you may manage after C. W. Dayton's fashion, as given on page 613. When the swarms have united for a short time, you will find the queens balled. Take away the queens, get the bees into a box or hive, and keep them imprisoned there for 6 or 8 hours, and then open a crack so only one or two bees can get out at a time, and each bee will find its way peaceably to its own hive.

2. No properly-constructed hive-cover should let the water work under. There is better chance for a gable cover to be made to shed rain, but it is sometimes inconvenient to have a cover that is not entirely flat on top, especially if you sometimes want to pile another hive on top. As yet I have found no cover more satisfactory than one made with two layers of boards and covered with zinc or tin, the metal being sure to be water-tight, and the two layers of board making an air-space which is cooler for the bees in summer, and warmer in winter. The objection is that such a cover costs about 30 cents.

## How Sections Are Filled—T Supers—Doolittle's Fixtures—Hive-Bottom—Catnip

1. My sections are capped all over, except almost all around the section is a row of empty cells partly filled. Is this the way all sections are filled? I removed these and put empty ones in their place, which they are now well ahead in. Was this doing right, or should I have waited till all were filled solid to the section's edges? This hive holds only 21 sections, and no more could be added till these were removed.

2. What is a T super? Looking up the catalogs I find nothing except T tins in this line. What is their advantage over the regular No. 1 super?

3. What kind of hives, frames, and sections does G. M. Doolittle use? As I understand, his super holds 44 sections.

4. I have two colonies in 8-frame hives (June 16), frame size, 11½x11½ inches, and these are about one-third full of honey, and both work in supers. Does this show an unprolific queen?

5. What kind of hive-bottoms do you like best, Danzenbaker or reversible?

6. Is catnip a honey-plant? PENNSYLVANIA.

ANSWERS.—1. It is the usual thing to have most of the row of cells next the wood unsealed. It is generally considered a very desirable thing to have all these cells sealed, but usually to accomplish this requires more crowding than is profitable. Some, however, claim that it is better to have a row of empty cells next to the wood, for then when a section is cut out to put on the table it is not so dauby. But the more sealing the better for the market in general.

You were wise to give a fresh super without waiting for all the outside row to be filled and sealed, but there's something radically wrong that allows only 21 sections on a hive at a time. That sort of thing will certainly cut out a lot of your harvest. Unless your sections are of the closed-top kind, you ought to have been able to put a second super under the first one, and this should have been done probably when the first super was about half filled. It's a very poor colony that would be satisfied with only 21 sections at a time. In the heart of the harvest my colonies usually have from 3 to 5 supers of 24 sections each.

2. A T super is a plain box without top or bottom, ¼-inch deeper than the height of the sections it is to contain. On the bottom, at each end, is a plain strip of tin to support one end of the sections in the end rows, and at the proper places staples are driven into the bottom and then bent so as to support the T tins inside. On page 19 of "Forty Years Among the Bees," is a picture of a T super,

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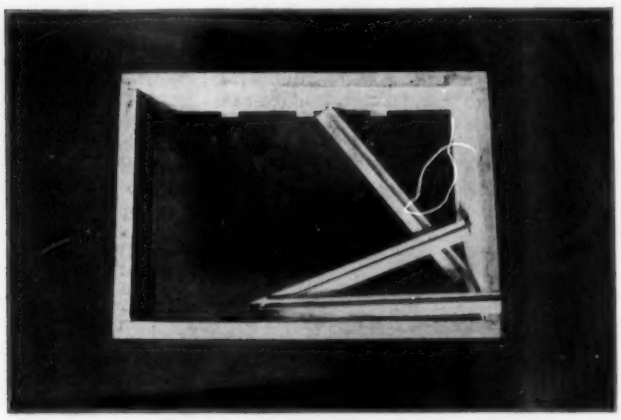
which the editor may be kind enough to reproduce here. I'm sorry to say it doesn't show as plainly as it might what a T super is. The 3 T tins are shown loose, and you will see at the bottom of the super the supports for them, which



T-TINS AND BOTTOM OF T SUPER

are here squares of sheet-iron nailed on. The bent staples are later, and perhaps a little better.

I'm not sure what you mean by a regular No. 1 super, but one advantage of a T super is that the contents can be taken out *en masse*, and then the sections can be very easily taken apart. Another advantage is that there is no wood either under or over the sections, making them come nearer to the top-bars of the brood-frames, and making a pile of supers more compact, because each super is only ¼-inch higher than a section.

It seems a very strange inconsistency that allows T tins to be listed in a catalog and not the T super, for without the T super one will have no use for a T tin. For some reason no manufacturer pushes T supers, and yet there are not a few who produce section-honey on a large scale who will have no others. As for myself, I have tried about all the surplus arrangements for section honey that have been put on the market, some of them on a pretty large scale, and as yet have found nothing else to equal the T super. I have seen it condemned, but when I learned how it was used, without taking advantage of its best features, I don't wonder at its being condemned. I have no personal interest in the affair, it is no invention of mine, but it is my deliberate conviction that at present there is no better super in existence than the T super.

3. The hives on which Mr. Doolittle uses supers of 44 sections each are the 10-frame Langstroth, holding, of course,

BOTTOM-BOARD AND FALSE BOTTOM

10 Langstroth frames. Tall sections, 3¼x5⅜x1⅝, run crosswise.

4. Not necessarily.

5. What is called the Danzenbaker bottom-board is reversible, and is in reality a mere variation of the Miller bottom-board, which hardly entitles it to a change of name. Although the reversible or Dazenbaker bottom-board is my own invention, I now prefer a bottom-board that does not need reversing, as shown in "Forty Years Among the Bees," page 39. The bottom-board at the right is open, as used in winter, giving a 2-inch space under the frames. In the summer a false bottom is shoved under, as shown at the left, but almost any old thing can be shoved under to fill up 1¼ or 1½ inches of the space.

6. One of the very best.

## The T-Super and 4¼ Section

1. Just why do you like the T-super better than any other kind?

2. Just how long ought the T-super to be made inside?

3. If you had 100 supers taking the slotted section-holders, and wanted to buy 100 others, what kind would you buy? That is, do you like the T-supers enough better so that you would make the change?

4. I believe the T-super is lengthened to fit the regular hives by putting cleats on the ends. Would it not be better to make them 20 inches long outside, and take up the extra space by nailing boards inside, so as to make the super warmer?

5. If you were to begin bee-keeping over again, would you adopt the 4¼ section? ILLINOIS.

ANSWERS.—1. Among a number of reasons, the all-sufficient one is that I think I can get more satisfactory results with less time and labor than with any other kind. There is no reason why I should be prejudiced in favor of the T-super beyond the fact of its real excellence. It is no invention of mine—that honor belongs to C. H. Dibbern, although it may have been original also with some one else. I got the idea in the first place from D. A. Jones of Canada, and I could never learn from whom he got it. Possibly in some round-about way from C. H. Dibbern. Ever since adopting the T-super I have been on the lookout for something better, and have given a pretty fair trial to about all the new things that have claimed to be improvements, expecting to make a change when I found something better. As yet I have found nothing better. Others, however, have condemned the T-super in unmeasured terms; and it is likely that I should condemn it in the same terms if I should be compelled to use it as wrongly as have some.

2. Mine are 17⅜ long inside. I don't know whether any other length would do better.

3. That's an easier question than some others. If I had 100 hives taking a frame of a certain size, I would hesitate about getting 100 that would take a frame of a different size, if there were only a little difference in favor of the new kind, because I would not want the inconvenience of having the two sizes in the same apiary. But no such inconvenience attends the use of two different kinds of supers at the same time, and the second hundred would most assuredly be T-supers. I had hundreds of wide frames in use, and had satisfactory results with them; but I threw them all away and replaced them with T-supers when I found the latter were enough better. It was a waste, but I have never regretted it.

4. I doubt that the difference would count much. I have a few made that way, and don't like them any better. They are, of course, a little heavier.

5. I think I should.

**Honey as a Health-Food.**—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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## Reports and Experiences

### Bees Doing Well—Wet Weather

My bees are doing well this year, but the weather is very wet. I had a job with them for a green hand. I now have 6 colonies. One of them was queenless all spring and I gave them some eggs from another colony and they built 4 queen-cells. In 3 weeks they were queenless again, so I gave them brood from one colony and eggs from another, and in a week 43 queen-cells were capped; but they now have a queen.

GEO. E. WASCHENBERGER.

Stillwater, Minn., June 21.

### Clover Bloom, But No Honey

Bees wintered here with some loss for some bee-keepers, and now it has been very cold for a week and the white clover is at its best. If it does not turn warm there will be no crop this summer. Last summer was the same. My bees did not get a pound of surplus honey from white clover then, and the fields and roadsides were just white then as they are now.

SWAN ANDERSON.

Chesterton, Ind., June 19.

### An Unusual Season

Bees are commencing to swarm, and the swarms are very large. There is no honey in the brood-chambers and none in supers. Late frost destroyed nearly all the basswood buds. Clover and raspberry are yielding well to-day. The bees consumed more honey the past spring than in any spring since my bee-keeping of 14 years.

June 10 a parent colony, after casting its prime swarm, commenced to kill its drones about one hour later. I have noticed 3 or 4 more cases as above, something I never saw before.

Nights are very cold here, although the days are quite hot.

A. C. F. BARTZ.

Keystone, Wis., June 13.

### Clover a Failure

Clover has turned brown and is a complete failure here. (Locality of Delaware Water Gap.) Sixty colonies in good condition did not store 100 sections of honey; in fact, many did not even fill bait-combs.

Fruit-bloom left the bees in fine condition, but winter had killed the clover on gravel soil, and on clay soil it did not yield. If the bees pull through we may get honey from buckwheat. We dare not feed sugar in this locality, as we would lose trade. The question in the sale of honey here is, Do you feed sugar?

A. C. HUNSBERGER.

Portland, Pa., June 25.

### Weak Colonies Over the Strong

Last week Mr. Hasty called it the pig-a-back style of keeping a weak colony warm over a strong one. It seems that Mr. Hasty thinks there is nothing in this plan, or do I understand that I am a pig-a-back-way bee-keeper? You must understand, Mr. Hasty, that I am a beginner, and have little time to work with bees, also that I have had no schooling in this country, and it makes it harder to study and write. Have you had any experience with weak colonies on top of strong ones? Please explain yourself a little. Don't hit the beginners too hard. You might discourage them, only they have good, strong hearts. You can't discourage me. I am a bee-keeper in my heart, and will be.

The outlook is good so far here. It has been too wet, but the bees are strong now and work on white clover. I don't ask many questions. The way I find my information I look over the old copies of the American Bee Journal and am able to find most of the information I want.

A. L. OLIVER.

Ronneby, Minn., June 19.

### Hived Swarms that Were Gone

The American Bee Journal gives me lots of pleasure. I talked with some of my neighbors who keep bees, trying to get them to subscribe, but some of them say they are afraid of getting sore eyes if they read so much. Some of them wait until their bees swarm, and hang on the fences and trees, and then come running to me like a mad dog and want hives.

A neighbor wanted 5 swarms of bees, and I told him they would be $2 50 each. He said, "All right, when you catch them I will give you my check." I told my wife to watch out a little once in a while and when the bees swarmed I would catch them and give her the money for a new dress. One day she called that the bees were swarming. I sawed the limb off and got the bees into the hive without much trouble. I had them nearly all in when my wife said there was another swarm on the next tree. I got another hive and caught that swarm also, and hived it. By the time I had that one hived my wife said there was still another swarm on another tree. I got them down, too, after which she told me to go right over to Mr. Johnson and tell him I had 3 swarms for him. Mr. Johnson came over and asked where the swarms were. I told him they were in the hives, of course. He looked into 2 hives and found no bees, but in the third there were bees all right. Now, I could swear that I caught 3 swarms, and hived them, too. My wife says they must have gotten away. Evidently they swarmed out while I was gone to tell Mr. Johnson.

W. A. LOCHMAN.

Mt. Washington, Mo., June 16.

### White Mulberries for Bee-Feed

With the first hot days of this later June the white mulberry is dropping its fat and luscious fruit, bursting its juicy jacket as it strikes any hard substance. The grateful shade and sweet berries are an easy attraction for the neighborhood birds, the robin, the shrike and the oriole seeming to indicate a special preference, with the sparrow a close second.

With the intense heat of yesterday (June 29) and to-day it is only natural that nectar in flowers should evaporate, leaving less sweets in the calyxes for the bees to feast on and store against the days of famine that are certain to come before the snow makes its advent. Even now bees seem at a loss in what field they may best glean for coveted stores. They must feel in urgent need of making up for the many lost days of spring, when it was too cold or rainy for vigorous quest.

These conditions—all too common the last few years in this small portion of our land—should teach the intelligent and sympathetic bee-keeper the propriety of establishing some reliable deposit of available sweets to meet this oft-occurring emergency.

I have alluded to the subject of white mulberries in the pages of the American Bee Journal in years past. Subsequent experience enthusiastically confirms me in my previous statements of facts—that the white mulberry is a great dependable honey-food for bees. I make this broad statement because I believe—nay, because I am assured of it—not for gain, as I have no stock to sell.

I wish bee-keepers could see my bees literally swarm over the crushed ripe mulberries I am feeding on the alighting-board—how clean they devour every particle of the berry, rarely leaving the small, hard seeds.

Five minutes' observation would be more convincing than anything I can write, because the "Doubting Thomas" in the nature of us all does more to discourage and deter progress in all directions than all the facts arrayed can counteract.

I have only one fair-sized colony, and from the one tree I could easily feed 6 colonies one month, a big quart or more per day to each. This gives some idea what two dozen of these hardy trees would do for a respectable apiary. I have no doubt 2, or even 3, quarts could be advantageously fed to each colony, if done systematically; but I am home only evenings and mornings, hence I can not feed them during the day. I am prodding my feeble inventive faculties for a method of feeding them within the hive, and I have an inkling of how it can be done. If it proves a success, I'll let you know.

PEIRO.

Chicago.

### Early Honey Crop Small

At this writing it looks as though the honey crop will be small, although in isolated localities bees are doing well. It is as yet too early to say what the result will be. The great amount of rain we have had, and are having, may produce a continuous honey-flow until buckwheat comes, and it is not too late to have a big honey crop. One of my outyards is doing well.

F. GREINER.

Naples, N. Y., June 29.

### Cool Weather and Little Nectar

There are quite a number keeping bees in this vicinity, most of them doing so in order to ride a hobby which is both interesting and inexpensive. As a rule, they have strains of blood from the best breeders in this country, and use the most modern and up-to-date hives and other "bee-furniture." There is just enough difference of opinion as to the proper size of hives, depth of frames, etc., to make things interesting at our usual weekly gatherings. The bees on the average did not come out of winter quarters very strong, but I don't believe this fact will cut a great deal of figure, as they have all built up at this date, and until within the last few days a colony of any size could do little more than make a living, owing to the cool weather and lack of nectar.

La Porte, Ind., June 27. C. H. WAIR.


## Queen-Button for Bee-Folks

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.

334 Dearborn Street, - CHICAGO, ILL.

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American Bee Journal


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on the market to-day. Covers and bottoms are of **One Piece.** Everything is **Polished** on both sides, and a better case cannot be had at any price.

We can furnish them in single or car-load lots to fit any number or style of section. Large quantities of all the standard sizes on hand.

As a special offer, we will sell you 25 cases to hold 24 sections, complete with **Nails, Paper and Glass,** at $4 00. Write for prices on larger quantities. Can furnish corrugated paper if desired.

We can furnish you with anything you need in the apiary. Our Catalog is free.

**Prompt Shipment and Satisfaction Guaranteed**

## Minnesota Bee-Keepers' Supply Co.

**Nicollet Island, No. 33, MINNEAPOLIS, MINN.**

**Mention Bee Journal when writing.**


### CONVENTION NOTICE.

**National in Texas.**—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9 and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.


**"It is continuous advertising that impresses the public with the stability of a firm."**

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If you want Sections that you can put a full sheet of foundation in 4 sections at once; or any other Bee-Supplies, send for Catalog to

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My Adel Queens and Bees are exceedingly handsome. Non-swarmers and practically non-stingers. Hustlers for honey; in fact, are regular Red Clover Bees. Each queen, $1. Catalog ready. **HENRY ALLEY**

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## Fine Italian Queens

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| | 1 Queen | 2 Queens | 4 Queens | 6 Queens |
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| Untested | $ .75 | $1.45 | $2.85 | $4.25 |
| Tested (or Warranted Tested) | 1.00 | 1.90 | 3.75 | 5.50 |

Select Tested (for breeding purposes) $2.00 each—no discount.

It is not mine to command your favors—I'll do more, I'll merit them. May I ask a trial order?

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Our warehouse is well stocked with **all kinds of Bee-Keepers' Supplies.**
Beeswax always wanted.

**GUS DITTMER, Augusta, Wis.**

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Prices of Queens, Italian and Caucasian: Untested in June, $1 each; dozen, $9. Tested in June, $1.25 each; dozen, $12. Selected Queens of any grade, 25 cents extra.

Prices of Nuclei on application.

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**LANSING, MICH.**

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AS RED-CLOVER WORKERS

L. C. Medkiff, Salem, N. J., says: "I bought an untested queen of you last year, and her bees have filled 3 comb-honey supers, and did not swarm, while 13 out of the 15 other colonies did not get more than half that amount.

"I have queens from 6 different breeders, and I class yours 100 percent above them all. Your bees worked very strong on the first crop of red clover. I know they were yours, because I floured them with a dredge-box and watched the hive. They also worked strong on the second crop of red-clover and lima-bean blossoms."

Untested Queens, 75c each; six, $4; dozen, $7.50. Select Untested, $1 each; six, $5; dozen, $9. Safe arrival and satisfaction guaranteed. Descriptive circular free.

I am now filling orders **By Return Mail,** and shall probably be able to do so until the close of the season.

**J. P. MOORE,** R.F.D. 1 **Morgan, Ky.**

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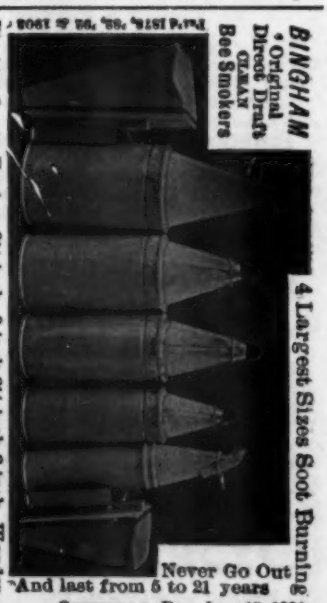
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4 Largest Sizes Soot Burning
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And last from 5 to 21 years

OTISVILLE, PA., Jan. 18, 1904.

**Dear Sir:**—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

American Bee Journal


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Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. SPECIAL DISCOUNTS now. Write to-day. Address,

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**TOLEDO**

Will save you money. We will buy your Honey and Beeswax, and pay highest market price. It will pay you to correspond with us when your crop is ready to market. No shipment too large for us. Carloads a specialty.

**QUEENS! QUEENS! QUEENS!**

We have a yard at Toledo with 100 colonies and over, which we use for queen-rearing only, besides several out-yards which we run for honey; also for extra bees. Brood and queens are mailed the same day order is received.

*OUR 70-PAGE CATALOG IS SENT FREE*

To any one asking for it. No matter whether you keep one colony or 500. We also handle a large line of Poultry Supplies, and sell Eggs for hatching. Our 1906 mating list is sent with every catalog. Don't buy until you have seen it.

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25A6t Mention Bee Journal when writing.

## Wisconsin Basswood Sections

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Is what we are making for our customers.

**—DOVETAILED HIVES AND SHIPPING-CASES—**

We carry a full line of SUPPLIES. Ask for Catalog.

**THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.**

**Queens** A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

**GEORGE W. BARNES,**
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NO. 1 SECTIONS, per 1000, $4.20; No. 2 Sections, per 1000, $3.70. Root's Dovetail and Danz. Comb-Honey Hives, and all kinds of BEE-SUPPLIES at factory prices. Berry Boxes, etc. Italian Queens.

26A13t H. S. DUBY, St. Anne, Ill.
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## Rose Lawn Queens

**Italians—Carniolans—Caucasians**

We thank our friends for the liberal patronage extended to us, and beg to announce that we have largely increased the capacity of our queen-rearing yards, and will be prepared to fill orders promptly after July 1st.

Our prize offer on honey production is extended to Oct. 1st for those who wish to try our "Pure Gold Queens."

We call special attention to the superior qualities of our Red Clover Italians and Yellow Caucasians which are worthy the attention of progressive bee-keepers.

PRICES AFTER JULY 1

Italians and Carniolans, Select, Untested, 75 cents; six, $4.00.
Caucasians, Select, Untested, $1.00; six, $5.00.

Banat Queens for those who wish them.

Special prices for larger orders and breeding stock will be given on application. Write for Catalog.

ROSE LAWN APIARIES,
22Atf STA. C. LINCOLN, NEB.
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**Italian and Caucasian**

## BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in JULY AND AFTER:

| | |
|---|---|
| One Untested Queen | $ .65 |
| " Tested Queen | .90 |
| " Select Tested Queen | 1.10 |
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| 2 " " " | 1.40 |
| 3 " " " | 2.00 |
| 1 Un. Caucasian Queen, | 1.25 |
| 1 Tested " " | 1.75 |

Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of queens, send for free catalog.

J. L. STRONG
16Atf 204 E. Logan St., Clarinda, Iowa.
Mention Bee Journal when writing.

## Italian and Caucasian Queens

A special discount is offered on all Queens and Bees ordered to be delivered before the close of the season of 1906. Pure stock, pure mating, and excellence in grade guaranteed. Address,

**ROBERT B. McCAIN,**
2Atf YORKVILLE, ILL. R. F. D.
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## Queens Now Ready to Mail

None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00. Discount on quantity.

**GRANT ANDERSON,**
20Atf SABINAL, TEXAS.
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## Choice Queens

Caucasians—Untested, 75c; Tested, $1.00. Italians and Carniolans—Untested, 60c; Tested, 75c. A postal card will bring my circular and full price-list for 1906.

**CHAS. KOEPPEN,**
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## Marshfield Hives and Sections

kept in stock; none better. **Dittmer's** Foundation and all kinds of Bee-Keepers' Supplies sold right. Thousands of Shipping-Cases, 24-pound, 13c; Fancy White Basswood, 16 cents. **Honey** and **Beeswax** wanted. Send for free list, and save 20 percent on your order.

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Everything used by Bee-Keepers.
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I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

## WALTER S. POUDER,

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## CAUCASIAN QUEENS!

I can furnish a limited number of Queens of this popular variety, bred from a Tested Queen sent me by the Agricultural Department, all mated in a mating yard away from all other bees, so that all of my Queens will be almost sure to be purely mated. These choice Queens only $1.00 each. C. W. PRICE
29Atf L.B. 484, SPIRIT LAKE, IOWA.

## Queens By Return Mail

Queens from our fine strain of 3-band Italians will not disappoint you; bees are gentle and the best of honey-gatherers. Queens are large and prolific, and every one guaranteed. Untested, 50c, $6 per doz. Tested, $1 each.

J. W. K. SHAW & CO.
19Atf LOREAUVILLE, Iberia Co., LA.

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The Farmers' Review
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Chautauqua Lake, N. Y.,

and return, via Nickel Plate Road, July 27th, at $14.00 for the round-trip, from Chicago. Return limit August 28th. Chicago City Ticket Office, 107 Adams Street. La Salle St. Station, the only depot in Chicago on the Elevated Loop.
15—29A2t

GOLDEN AND LEATHER-COLORED ITALIANS

Price of Golden Queens. Before July 1st: Untested, $1 each: 6 for $5; 12 for $9. Warranted $1.25 each; 6 for $7; 12 for $13. Tested, $1.50 each. Select Tested, $2. After July 1st: Untested, 75c each; 6 for $4; one dozen, $7. Warranted Tested, $1.25 each; 6 for $7; one dozen, $13. Tested, $1.50; Select Tested, 2; Breeders, $5. Caucasian Queens will be ready to mail July 1st; Untested, $1 each; 6 for $5. Warranted Tested, $1.40 each; 6 for $8.

We have three yards—two Italian and one Caucasian—and mean to meet the demand of the trade. Prices of Nuclei on application.

29Atf D. J. BLOCHER, Pearl City, Ill.

# WE WILL BUY

New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

# WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

# BEESWAX

We are in the market to buy Beeswax at any time of the year. Write us when you have any to sell.

HILDRETH & SEGELKEN
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Excellent Goods
Lowest Prices

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Sample copy free.

Our large, illustrated Price-List of Supplies free on application. Address

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FREIGHT-RATES FROM **CINCINNATI**

are the LOWEST, ESPECIALLY for the SOUTH

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Prompt Service is what I practice.
You will Satisfaction Guaranteed

SAVE MONEY BUYING FROM ME. Catalog mailed free. Send for same.

Let me book your Order for **QUEENS** bred in separate apiaries the GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.

For prices, refer to my catalog, page 29.

**C. H. W. WEBER** CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.


## Honey and Beeswax

CHICAGO, July 9.—Market is practically bare of comb honey, and while a little sells at about 15c for the best white grades, there is little volume to the trade Extracted is in some demand at 6@7c for the best grades, but off flavors are about unsaleable at 5@5½c. Beeswax selling upon arrival at 30c. R. A. BURNETT & Co.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c: amber, 5½@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay. GRIGGS BROS.

INDIANAPOLIS, July 6.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, July 21.—Advices from different points are rather conflicting regarding the crop of honey this season, and consequently, there is no market price established. Some new arrivals of comb honey sell at 13@15c, according to quality, and extracted honey at 6@7c. Beeswax firm, 28c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

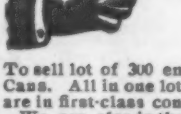
NEW YORK, July 10.—We still have some demand for comb honey, mostly for white grades, which sells at from 13@14c, according to quality. A very limited demand for light amber, with sufficient supply, and prices ruling at about 12c. Extracted in fairly good demand, with sufficient supply to meet all requirements. Quite some arrivals from the South, and common grades are selling at from 50@58c per gallon, and better grades at from 60@65c per gallon. California strong and white is selling at from 7@7½c, and light amber at from 6@6½c. No near-by honey in the markets as yet. Beeswax steady at 30c per pound.
HILDRETH & SEGELKEN

CINCINNATI, June 15.—The demand for extracted honey has brightened up within the past 30 days. However, there is so much of last season's crop still unsold, which tends to hold down the price. There is no material change in prices since our last quotation. We quote amber in barrels at 5@6½c. No new white clover extracted honey on the market as yet. New crop of comb honey finds ready sale at 14@15½c. Choice yellow beeswax, 30c, delivered here.
THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections: off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8½c; light amber, 6½@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, July 5.—The honey market here is almost bare and there is very little new stock coming to market. On account of the poor wintering of the bees, very little honey has been gathered. The market for the best white honey in 24-section cases is $3.25@$3.40 per case; amber and other grades are 25@50c per case less. There is no new extracted honey on the market, but a little old is selling at 5½@6c, but scarcely any demand. We look for a good demand later. C. C. CLEMONS & Co.

CINCINNATI, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No. 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5½@5½c. Beeswax, 30c.
C. H. W. WEBER.

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To sell lot of 300 empty 60-lb. capacity Honey-Cans. All in one lot, or less quantities. Cans are in first-class condition.

We are also in the market for Fancy Comb and Extracted Honey. Correspondence solicited

**Michigan White Clover Honey Co.**
AGENCIES: DETROIT, MICH.
35 So. Delaware Street, Indianapolis, Ind.
150 E. Jefferson Street, Louisville, Ky.
643 Broadway S.E., Cleveland, Ohio.
21A13t Please mention the Bee Journal

**65c for 12 Names** For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

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# WANTED

To hear from parties with their lowest cash price, delivered here, for fancy comb honey in no-drip shipping cases; also extracted honey. We are cash buyers, and remit on receipt of goods.
THE FRED W. MUTH CO.,
27Atf 51 Walnut St., CINCINNATI, OHIO.

**Queens by Return Mail**
None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00.
30A3t J. L. FAJEN, Alma, Mo.

**Red Clover Queens**
J. P. MOORE STRAIN
Mated to choice drones Select Untested, $1.00; six, $5.00. WALTER M. PARRISH,
30A5t LAWRENCE, KAN.

WE SELL ROOT'S GOODS IN MICHIGAN
Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. Beeswax Wanted for Cash.
M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH

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**Queen-Clipping Device Free!**

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it FREE as a premium for sending us One New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,
GEORGE W. YORK & CO.,
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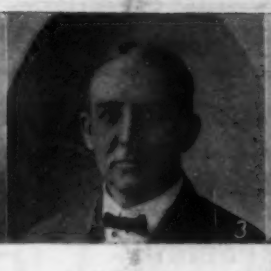

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